

# Mahdi Taherahmadi

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M.Sc. STUDENT, COMPUTING SCIENCE, SIMON FRASER UNIVERSITY, BC, CANADA

## RESEARCH INTERESTS

Reinforcement Learning, Human-Robot Interaction, Computational Neuroscience,  
Cognitive Science

## EDUCATION

**Simon Fraser University, British Columbia, Canada**

M.Sc, Computing Science - CGPA: 4

Sept' 19 - Sept' 21

**Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran**

B.Sc, Computer Engineering.

July' 13 - July' 18

## RESEARCH EXPERIENCE & PROJECTS

**Research Assistant - MARS Lab**

- Human Navigational Intent Inference

Supervisor: Prof. Mo Chen

Aug '19 - Present

**Data Analyst - Rahnema Co.**

- RDMA Big Data R&D Team

Jan '18 - Mar '19

**Research Intern - AIRLab - Polytechnic University of Milan**

- Simulation and Evaluation of Realistic Wireless Communication in Multi-Robot Scenarios

Supervisor: Prof. F. Amigoni

May '17 - Sept '17

**Research Assistant - Cognitive Robotics Lab - AUT**

- Vision-based Advanced Driver Assistance System(ADAS)

BSc Project - Supervisor: Dr. Shiry

Oct '16

- Comparing Corresponding fMRI, ECOG and EEG data in Human VTC

Joint Project with Royan Institute of Research - Supervisor: Dr. Khaligh-Razavi

Oct '16

- Victim Detection and 3D Pose Estimation from 2D Images for a Rescue Robot

Supervisor: Dr. Shiry

Nov '16

- Community Detection in Social Networks

Fanavard International Data Mining Challenge

Oct '16

- RoboCup Rescue Simulation League Base Code

Team SOS VR, Supervisor: Dr. Shiry

Sept '16

- Object Classification using Convolutional Neural Networks with Attention Layers

CNN Group, Supervisor: MSc S. MalekGHasemian, Prof. Safabakhsh

Jan '16

- Robust Cross Sign Detection for Aerial Robot using Template Matching Algorithm

Supervisor: Dr. Shiry

Dec '15

AWARDS & ACHIEVEMENTS	<p><b>3rd Place - FIRA RoboWorld Cup 2018</b> <span style="float:right"><i>Aug '18</i></span>  - Team MCS, Simurosot - Miro Middle, Taichung, Taiwan</p> <p><b>3rd Place - FIRA RoboWorld Cup 2018</b> <span style="float:right"><i>Aug '18</i></span>  - Team MCS, Simurosot - RoboChallenge, Taichung, Taiwan</p> <p><b>13th Place</b> out of 100 teams - <i>AUTDMC 2017</i> <span style="float:right"><i>Nov '17</i></span>  - Amirkabir Data Mining Cup 2017, Tehran, Iran</p> <p><b>2nd Place - RoboCup 2017</b> <span style="float:right"><i>July '17</i></span>  - <b>Team SOS VR</b>, Rescue Simulation Virtual Robot league, Nagoya, Japan</p> <p><b>1st Place - RoboCup IranOpen 2017</b> <span style="float:right"><i>Apr '17</i></span>  - Team SOS VR, Rescue Simulation Virtual Robot league, Tehran, Iran</p> <p><b>9th Place</b> out of 60 Teams - <i>Sharif Programming Marathon 2016</i> <span style="float:right"><i>Sept '16</i></span>  - Magnet: The Localized Shopping Recommender System using PredictionIO Platform, Sharif University of Technology, Tehran, Iran</p> <p><b>3rd Place - RoboCup 2016</b> <span style="float:right"><i>July '16</i></span>  - Team SOS VR, Rescue Simulation Virtual Robot league, RoboCup 2016, Leipzig, Germany</p> <p><b>3rd Place - RoboCup 2015</b> <span style="float:right"><i>July '15</i></span>  - Teen size humanoid soccer league, RoboCup 2015, Hefei, China</p> <p><b>Top 0.03%</b> - among more than 300,000 participants <span style="float:right"><i>July '13</i></span>  - Nation-wide University Entry Exam</p>
PUBLICATIONS & TECHNICAL REPORTS	<p>S. Azami, M. <b>TaherAhmadi</b>. "Parametric and Non-Parametric Model for Power Usage Data Time Series Analysis", Technical Report on Statistical Machine Learning Final Project, Oct '16.</p> <p>S. Azami, M. <b>TaherAhmadi</b>. "Implementing and Evaluating Naive Bayes Model and PGM for Heart Disease Classification", Technical Report on SML Final Project, Oct '16.</p> <p>M. <b>TaherAhmadi</b>. "Implementing and Analysing Linear Regression on a Data Set of Student Grades", Technical Report on SML Final Project, Oct '16.</p> <p>M. <b>TaherAhmadi</b>, S. Azami, S. Shiry, "S.O.S VR Team Description Paper, RoboCup2016 Rescue Virtual Robot League", <i>International RoboCup Competition</i>, Julyy 2016, Leipzig, Germany.</p> <p>S. Azami, M. <b>TaherAhmadi</b>, "Image Compression Using Low-Rank Matrix Approximation", Technical Report for Advanced Mathematics course Project, Dec '16.</p>
TEACHING EXPERIENCE	<p>Computer Engineering Department, Amirkabir University of technology:</p> <ul style="list-style-type: none"> <li>- <b>Teaching Assistant</b> - <i>Linear Algebra and its Applications</i> - Dr. Ehsan Nazerfard <span style="float:right"><i>spring '17</i></span></li> <li>- <b>Teaching Assistant</b> - <i>Principles of Programming Languages(C)</i> - Dr. Shiry <span style="float:right"><i>Fall '16</i></span></li> <li>- <b>Teaching Assistant</b> - <i>Engineering Statistics</i> - Dr. AmirHaery <span style="float:right"><i>Spring '16</i></span></li> <li>- <b>Teaching Assistant</b> - <i>Discrete Structures</i> - Dr. Fallah <span style="float:right"><i>Spring '16</i></span></li> <li>- <b>Teaching Assistant</b> - <i>Data Structures &amp; Algorithms</i> - Dr. Dehghan <span style="float:right"><i>Fall '15</i></span></li> <li>- <b>Teaching Assistant</b> - <i>Principles of Programming Languages(C)</i> - Dr. Shiry <span style="float:right"><i>Fall '15</i></span></li> <li>- <b>Teaching Assistant</b> - <i>Advanced Programming (JAVA)</i> - Dr. Pourvatan <span style="float:right"><i>Spring '15</i></span></li> <li>- <b>Teaching Assistant</b> - <i>Principles of Programming Languages(C)</i> - Dr. Shiry <span style="float:right"><i>Fall '14</i></span></li> </ul> <p>Medical Engineering Department, Amirkabir University of technology:</p> <ul style="list-style-type: none"> <li>- <b>Teaching Assistant</b> - <i>Robotics</i> - Dr. AhmadiPajouh <span style="float:right"><i>Fall '15</i></span></li> </ul>
NOTABLE COURSEWORK PROJECTS	<p><b>Heart Disease Classification using PGM</b> - <i>Statistical Machine Learning</i> <span style="float:right"><i>Fall '16</i></span></p> <p><b>Power Usage Data Time Series Analysis</b> - <i>Statistical Machine Learning</i> <span style="float:right"><i>Fall '16</i></span></p> <p><b>Linear Regression on Student Grades Data</b> - <i>Statistical Machine Learning</i> <span style="float:right"><i>Fall '16</i></span></p> <p><b>Face Recognition Using SVD</b> - <i>Advanced Engineering Mathematics</i> <span style="float:right"><i>Fall '16</i></span></p> <p><b>SVD Image Compressor</b> - <i>Advanced Engineering Mathematics</i> <span style="float:right"><i>Fall '16</i></span></p> <p><b>Graph Based Motion Planner</b> - <i>Design Algorithm</i> <span style="float:right"><i>Spring '15</i></span></p> <p><b>Huffman Coding Data Compression</b> - <i>Data structures &amp; algorithms</i> <span style="float:right"><i>Fall '14</i></span></p> <p><b>Joumoung (The Strategy Game)</b> - <i>Advanced Programming(Java)</i> <span style="float:right"><i>Spring '14</i></span></p>

WORK EXPERIENCE	<b>Data Analyst</b> - Python, Plotly Dash, Apache Airflow, Apache Spark, Oracle DB, MongoDB - <i>Rahnema Company</i> , Beheshti ave, Tehran, Iran.	<i>Jan '18 - Present</i>
	<b>Back-End Developer</b> - Python, JS, PHP, Symfony, Git, Redmine - <i>ZoodFood Company, IIG</i> (Iran Internet Group), Vanak sq, Tehran, Iran.	<i>July '15 - Oct '16</i>
	<b>Software Developer</b> - Java, MySql, HTML, CSS, Illustrator, Git - <i>RAPNA</i> , Roshd Science & Technology Center, Tehran, Iran.	<i>Aug '13 - Dec '14</i>
COMPUTER SKILLS	<b>Languages:</b> C, C++, Qt, Java, Python, Matlab, Bash, JS, PHP, Assembly <b>Database Systems:</b> MySQL, SQL Server <b>Typesetting:</b> L <sup>A</sup> T <sub>E</sub> X, Microsoft Word <b>Frameworks, Operating Systems, and Scientific Tools:</b> Linux, ROS, OpenCV, Weka, Caffe, Theano, Spark, NumPy, Pandas, Scikit-learn, pgmpy, Git, Docker <b>Designing Tools:</b> Adobe Photoshop, Adobe Illustrator, Gimp	
VOLUNTEER EXPERIENCE & POSITION OF RESPONSIBILITY	<b>Technical Committee of RoboCup AsiaPacific 2018</b> - Virtual Robot Rescue.	<i>Dec '18</i>
	<b>Technical Committee of RoboCup IranOpen 2018</b> - Virtual Robot Rescue.	<i>Apr '18</i>
	<b>Lecturer at CEIT Robotic Summer School</b> - <i>Introduction to ROS</i>	<i>June '17</i>
	<b>Presenter at 9th Linux Festival</b> - <i>Introduction to Virtual Robot</i>	<i>May '17</i>
	<b>Technical Committee of RoboCup IranOpen 2017</b> - Virtual Robot Rescue.	<i>Apr '17</i>
	<b>Leader of Team S.O.S vr</b> - RoboCup Rescue, Virtual Robot Competition.	<i>July '16</i>
	<b>Presenter at 8th Linux Fest</b> - <i>Introduction to Cuda, Caffe, ROS &amp; Docker</i>	<i>May '16</i>
	<b>Member of 7th, 8th &amp; 9th Linux Fest Organization team</b>	<i>May '16</i>
	<b>Director of Cognitive Robotics Lab</b> - Computer Engineering department.	<i>July '15</i>
	<b>Coach and Captain of Faculty football team.</b>	<i>Sept '14</i>
SPOKEN LANGUAGES	<b>Persian</b> (Native), <b>Turkish</b> (Native), <b>Arabic</b> (Fair)	
	<b>English</b> (Fluent) (TOEFL - 10 Nov - R:26 L:28 S:22 W:23 - Total:99)	
REFERENCES	<b>Mo Chen</b> - Assistant Professor	
	- School of Computing Science, Simon Fraser University	
	- <a href="mailto:mochen@cs.sfu.ca">mochen@cs.sfu.ca</a> - <a href="#">Home Page</a>	
	<b>Angelica Lim</b> - Assistant Professor	
	- School of Computing Science, Simon Fraser University	
	- <a href="mailto:angelica@rosielab.ca">angelica@rosielab.ca</a> - <a href="#">Home Page</a>	
	<b>Saeed Shiry</b> - Assistant Professor	
	- Computer Engineering Department, Amirkabir University of technology	
	- <a href="mailto:shiry@aut.ac.ir">shiry@aut.ac.ir</a> - <a href="#">Home Page</a>	
	<b>Francesco Amigoni</b> - Associate Professor	
	- Department of Electronics, Information and Bioengineering, Polytechnic of Milan	
	- <a href="mailto:francesco.amigoni@polimi.it">francesco.amigoni@polimi.it</a> - <a href="#">Home Page</a>	